

**Amendments to the Claims**

1. (withdrawn)
2. (withdrawn)
3. (withdrawn)
4. (Cancelled).
5. (Cancelled).
6. (withdrawn)
7. (Cancelled).
8. (Cancelled).
9. (withdrawn)
10. (withdrawn)
11. (withdrawn)
12. (Cancelled).
13. (Cancelled).
14. (Cancelled).
15. (Cancelled).
16. (Cancelled).
17. (Cancelled).
18. (Cancelled).
19. (Cancelled).

20. (Cancelled).

21. (Cancelled).

22. (Cancelled).

23. (Cancelled).

24. (withdrawn)

25. (withdrawn)

26. (withdrawn)

27. (Cancelled).

28. (Cancelled).

29. (Cancelled).

30. (Cancelled).

31. (withdrawn)

32. (withdrawn)

33. (withdrawn)

34. (withdrawn)

35. (withdrawn)

36. (withdrawn)

37. (currently amended) A contrast medium for imaging of a physiological parameter, said medium comprising a particulate material wherein the particles ~~whereof~~ thereof comprise a matrix or membrane material and at least one magnetic resonance contrast generating species with the proviso that the magnetic resonance contrast generating species is not a gas or a gaseous precursor, said matrix or membrane material being responsive to a pre-selected physiological parameter and the response is an increased matrix or membrane permeability or chemical or physical breakdown of the matrix or membrane material, to cause the contrast efficacy of said contrast generating species to vary in response to said parameter.

38. (Cancelled).

39. (withdrawn)

40. (withdrawn)

41. (withdrawn)

42. (withdrawn)

- 43. (withdrawn)
- 44. (withdrawn)
- 45. (withdrawn)
- 46. (withdrawn)
- 47. (withdrawn)
- 48. (withdrawn)
- 49. (withdrawn)
- 50. (original) A contrast medium as claimed in claim 37 wherein the matrix or membrane material is responsive to pH, temperature, pressure, carbon dioxide tension, oxygen tension, enzyme activity, tissue electrical activity, tissue water diffusion or ion concentration.
- 51. (original) A contrast medium as claimed in claim 37 wherein the matrix or membrane material is responsive to pH, temperature or pressure.

52. (original) A contrast medium as claimed in claim 37 wherein the magnetic resonance contrast generating species is selected from the group consisting of paramagnetic compounds, superparamagnetic compounds, ferrimagnetic compounds, ferromagnetic compounds and compounds containing other non-zero spin nuclei than hydrogen.
53. (original) A contrast medium as claimed in claim 52 wherein the magnetic resonance contrast generating species is a paramagnetic compound.
54. (original) A contrast medium as claimed in claim 53 wherein the magnetic resonance contrast generating species is a paramagnetic compound selected from the group consisting of stable free radicals, transition metal compounds and lanthanide metal compounds.
55. (original) A contrast medium as claimed in claim 53 wherein the magnetic resonance contrast generating species is a paramagnetic compound selected from the group consisting of manganese compounds, gadolinium chelates, ytterbium chelates, dysprosium chelates and europium compounds.
56. (previously added) A contrast medium as claimed in claim 52 wherein the magnetic resonance contrast generating species is a superparamagnetic metal oxide.

57. (previously added) A contrast medium as claimed in claim 52 wherein the magnetic resonance contrast generating species is a compound containing other non-zero spin nuclei than hydrogen selected from the group consisting of  $^{19}\text{F}$ ,  $^{13}\text{C}$ ,  $^{15}\text{N}$ ,  $^{29}\text{Si}$  and  $^{31}\text{P}$ .
58. (previously added) A contrast medium as claimed in claim 57 wherein the magnetic resonance contrast generating species is a compound containing  $^{19}\text{F}$ .
59. (previously added) A contrast medium as claimed in claim 57 wherein the magnetic resonance contrast generating species is a compound containing  $^{13}\text{C}$  or  $^{15}\text{N}$ .
60. (previously added) A contrast medium as claimed in claim 57 wherein the non-zero spin nuclei are hyperpolarized nuclei.
61. (previously added) A contrast medium as claimed in claim 37 wherein the matrix or membrane material is selected from lipids, phospholipids, surfactants, proteins, oligomers or polymers.
62. (previously added) A contrast medium as claimed in claim 57 wherein the matrix or membrane material forms a vesicle or a liposome.
63. (previously added) A contrast medium as claimed in claim 61 wherein the matrix or membrane material comprises a lipid or a lipid mixture or a phospholipid or a phospholipid mixture.

64. (previously added) A contrast medium as claimed in claim 63 wherein the matrix or membrane material is responsive to temperature.
65. (previously added) A contrast medium as claimed in claim 63 wherein the matrix or membrane material is responsive to pH.
66. (previously added) A contrast medium as claimed in claim 63 wherein the lipid or the lipid mixture or the phospholipid or the phospholipid mixture has a T<sub>c</sub> value between 35°C and 80°C.
67. (previously added) A contrast medium as claimed in claim 37 wherein said particulate material is in combination with a targeting ligand for a cell or receptor of interest.
68. (currently amended) A contrast medium as claimed in claim 37 wherein the matrix or membrane material is responsive to temperature and comprises hydrogenated phosphatidyl choline (HPC), hydrogenated phosphatidylserine-sodium (HPS), ~~dipalmitoylphosphatidyl choline~~ dipalmitoylphosphatidyl-choline (DPPC), distearylphosphatidylcholine (DSPC), dipalmitoylphosphatidyl glycerol (DPPG), dipalmitoyl-phosphatidylethanolamine (DPPE), dibehenoylphosphatidyl-choline, dimyristoyl-phosphatidyl glycerol (DMPG), cholesterol, cardiolipin and starch and the magnetic resonance contrast generating species is selected from the group

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consisting of superparamagnetic iron oxide, GdDTPA-BMA, GdBOPTA, GdDTPA,  
GdDOTA, GdHPDO3A, DyDTPA-BMA and PrDO3A.